



# Kenya Crop Conditions Bulletin

## October 2021

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### National Synthesis (Maize, Beans, Wheat)

#### Overview

- Most parts of the country continued to experience generally sunny and dry weather
- The high and medium rainfall areas especially the highlands continued to experience moderate rainfall
- Maize harvesting was ongoing in the North Rift and parts of Western region
- Short rains crop is at early vegetative to reproductive stages in Western, Nyanza and parts of Central and the Rift
- Parts of Eastern, Coast remained dry as rainfall onset has been delayed. Main activities in these areas was land preparation and dry planting
- Wheat in North Rift was being harvested with good yields expected

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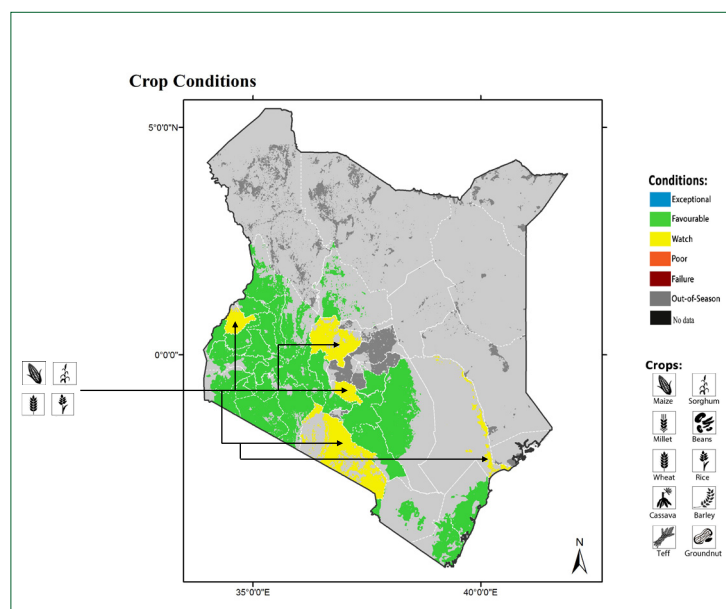
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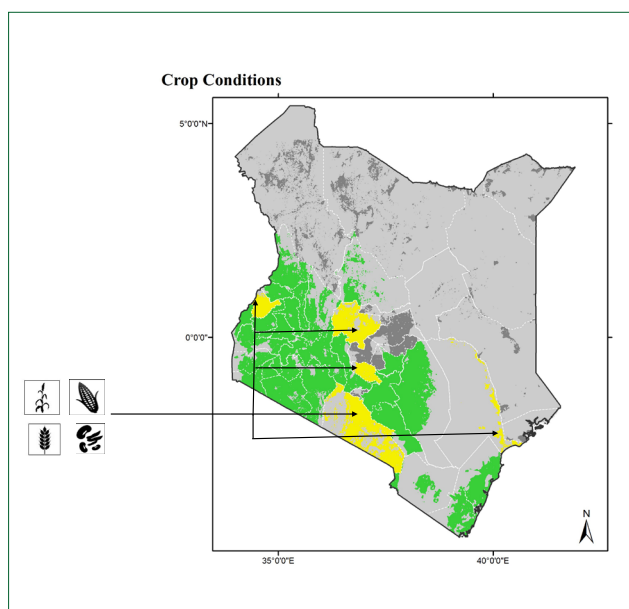
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Regional Crop Conditions September 2021



Regional Crop Conditions October 2021

Map showing regional crop conditions information in Kenya for September 2021 and October 2021 for maize, beans, wheat, green grams, cowpeas, rice and sorghum. The crop monitor map is based on a combination of several variables including remotely sensed data, ground observations, field reports, national and regional experts. Crops with conditions that are other than favourable are labelled on the map with the driver for the resultant condition.

## OUTLOOK (Kenya Meteorological Department (KMD)/State Department for Crops Development (SDCD)

November is normally the peak month for the October-November-December (OND) “short-rains” season. The outlook for November 2021 indicates that the Lake Victoria Basin, Highlands West of the Rift Valley and Central and South Rift Valley, and the Highlands East of the Rift Valley, are likely to experience near-average rainfall for the month. The South-eastern Lowlands, the North-Western, North-Eastern and the Coastal Strip are likely to experience near-average to below average rainfall. Episodes of heavy rains are likely to continue being experienced in several parts of the country during the period.

## Assessment by Region

### North Rift Region

Maize harvesting is ongoing in the North Rift region with the challenge of the existing wet conditions which are likely to increase the rotting of grains. Wheat in Uasin Gishu, Trans Nzoia, Baringo, Samburu and Elgeyo Marakwet is favourable at maturity to harvesting stage, especially in Nandi and Trans Nzoia. Harvesting of sorghum, beans and irish potatoes is ongoing. Wheat is at maturity to harvesting stage with favourable conditions being reported in all the Counties except in Laikipia where 35% of the planted crop is experiencing moisture stress and yields may be affected negatively. Harvesting of irish potato is ongoing in Nandi, Elgeyo Marakwet and Uasin Gishu with above average yields being realized while in Laikipia and Baringo, the crop is at maturity to harvesting stage and normal yield is expected. Sorghum condition is favourable at reproductive to maturity stage in West Pokot, Baringo, Uasin Gishu, Laikipia and Nandi Counties. The short rains beans crop is in favorable condition in Uasin Gishu and West Pokot while planting is ongoing Nandi, Trans Nzoia & Elgeyo Marakwet. Planting has been delayed in Baringo due to late onset of the OND rains. The planting of potatoes in Elgeyo Marakwet and West Pokot Counties is continuous in the potato growing zone and 30% of the SR crop is at vegetative to reproductive stage. Estimated 80% of the land has been prepared for OND short rains season in Samburu.

**Table 1: North Rift Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Baringo	33,564	503,460	37,614	712,350	5,858	65,844
Elgeyo Marakwet	30,200	1,004,500	30,970	1,080,235	358	5,317
Laikipia	25,500	316,450	22,031	382,938	3,662	15,665
Nandi	65,300	2,000,000	63,103	2,008,469	3,510	20,255
Samburu	9,600	50,000	7,185	70,918	620	1,118
Trans Nzoia	105,110	4,529,950	102,896	4,794,879	0	0
Turkana	282	888	3,948	38,022	1,692	14,067
Uasin Gishu	104,581	3,837,935	103,588	4,235,958	0	0
West Pokot	39,732	794,640	30,532	728,511	0	0
<b>Total</b>	<b>413,869</b>	<b>13,037,823</b>	<b>401,868</b>	<b>11,265,870</b>	<b>16,125,059</b>	<b>122,266</b>

## South Rift Region

Maize and Beans conditions are favorable in Kericho, Bomet, Narok and Nakuru due to the rains experienced in the region but under watch in Kajiado due to the delayed onset of the short rains. Bomet, Narok and Kajiado are already in short rain season and most crop are in planting to vegetative stage. Harvesting is still going on in Nakuru and Kericho. However, some parts have already started short rain season.

**Table 2: South Rift Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Bomet	32,000	369,156	25,951	495,001	6,529	46,805
Kajiado	6,760	49,120	6,780	71,895	30,592	53,312
Kericho	35,068	1,284,106	35,397	1,138,504	578	6,855
Nakuru	81,246	1,792,374	80,374	2,242,768	2,122	2,735
Narok	93,165	1,628,637	83,159	1,839,387	29,230	154,466
<b>Total</b>	<b>248,239</b>	<b>5,123,393</b>	<b>231,661</b>	<b>5,787,555</b>	<b>69,051</b>	<b>264,173</b>

## Central Region

Maize in Central region is favourable in Nyandarua county while in Muranga, Kiambu and Kirinyaga land is under preparation and planting to early vegetative because of onset of short rain.

Beans were in favourable condition in Nyandarua because of prevailing sunlight and rains resulted to vigorous growth and development of the crop. In Murang'a, Kirinyaga and Kiambu land is under preparation. Rice is favorable in Kirinyaga.

**Table 3: Central Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Kiambu	16,800	194,253	20,075	309,740	11,516	106,760
Kirinyaga	16,573	257,975	17,809	245,692	19,810	144,738
Murang'a	35,015	348,680	34,709	379,016	30,738	154,075
Nyandarua	17,100	410,004	17,212	288,128	0	0
Nyeri	13,985	181,116	16,720	232,266	15,081	45,662
<b>Total</b>	<b>99,473</b>	<b>1,392,028</b>	<b>106,524</b>	<b>1,454,842</b>	<b>77,145</b>	<b>451,235</b>

## Lower Eastern Region

The region is currently preparing the land for the short rains season which is the main production season. Land preparation is over 70%. Planting is over 80% as the region awaits the onset of rains. The targeting for short rains has decreased with the delayed onset.

**Table 4: Lower Eastern Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Kitui	32,553	19,712	31,095	140,873	105%	14%
Machakos	71,944	359,857	78,064	537,106	92%	67%
Makueni	54,121	253,012	68,864	294,211	79%	86%
<b>Total</b>	<b>158,618</b>	<b>632,581</b>	<b>178,023</b>	<b>972,191</b>	<b>92%</b>	<b>56%</b>

## Upper Eastern Region

In Upper Eastern, maize crop is favourable in Embu, Tharaka Nithi county while in Meru land preparation is still ongoing. In Embu, majority of farmers (about 75%) have planted the crop and has germinated especially in the upper zones of the county where significant amounts of rain were received during the onset of short rains. Beans are in stable condition in Embu and Tharaka Nithi counties. Around 90% of farmers have planted and planting is still ongoing in Embu. High cost of seed due to poor yield and high demand areas which experienced total crop failure have led to lower than target achievements in Meru. Crop is at germination stage in Tharaka Nithi. Very high fertilizer prices have also affected the amount being used. Cessation of the rains in Tharaka Nithi from 20<sup>th</sup> is likely to lead to poor germination for crops planted at the onset of the rains.

**Table 5: Upper Eastern Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Embu	20,046	201,579	17,595	231,734	17,505	86,409
Garissa	85	147	73	674	176	783
Mandera	1,514	6,947	1,538	7,473	788	2,031
Marsabit	340	965	291	1,485	330	1,020
Meru	22,320	199,565	26,335	332,609	57,081	303,221
Tharaka Nithi	12,700	151,940	11,259	142,047	18,635	107,535
Wajir	120	240	300	3,097	210	645
<b>Total</b>	<b>57,125</b>	<b>822,151</b>	<b>57,391</b>	<b>719,118</b>	<b>94,725</b>	<b>501,644</b>

## Coast Region

The region is currently preparing the land for the short rains season which is the main production season. Land preparation is over 70%. Planting is over 80% as the region awaits the rains onset. The targeting for short rains has decreased with the delayed onset.

**Table 6: Coast Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Kilifi	21,718	86,823	60,647	578,820	16,966	40,698
Kwale	42,070	186,760	55,847	533,606	21,250	78,999
Lamu	15,750	84,888	19,097	314,417	4,986	46,865
Mombasa	210	435	584	4,835	6	26
Taita Taveta	4,550	14,875	8,061	87,553	9,628	35,437
Tana River	2,684	1,284	3,026	42,839	196	748
<b>Total</b>	<b>86,982</b>	<b>375,065</b>	<b>147,262</b>	<b>1,562,070</b>	<b>53,032</b>	<b>202,773</b>

## Nyanza Region

In the Lower Nyanza region, more than 70% of the maize is at vegetative and tasseling stage. The conditions for maize are favorable. Short rains season started in time and the rains have been well distributed in most counties. Beans was grown as an intercrop with maize. The performance in this region is stable due to sufficient and well-distributed rainfall in Kisumu, Siaya, Homabay and Migori in this season.

In Upper Nyanza regions of Kisii and Nyamira, conditions for maize are favorable. The beans are at vegetative to reproductive stage and conditions are stable. Maize and beans performance are expected to be normal due to the good performance of the short rains in the region.

**Table 7: Nyanza Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Homa Bay	46,322	557,076	43,652	714,294	23,790	91,146
Kisumu	37,730	180,000	29,507	491,183	11,250	30,803
Migori	46,400	694,723	45,448	890,672	12,457	121,634
Siaya	48,300	386,170	46,817	748,062	20,700	106,115
Kisii	34,750	625,500	37,801	867,098	34,910	314,190
Nyamira	28,060	645,700	24,458	446,923	16,758	96,517
<b>Total</b>	<b>241,562</b>	<b>3,089,169</b>	<b>227,683</b>	<b>4,158,232</b>	<b>119,865</b>	<b>760,405</b>

## Western Region

In Western region maize short rains maize is at knee high to tasseling in Vihiga Busia, lower sub counties of Kakamega and Bungoma isolated cases of FAW reported has been suppressed by excessive rain in the region. In upper zones of Kakamega and Bungoma counties maize harvesting is ongoing.

Post-harvest losses have been reported in Mt Elgon, Tongaren and Kimilili has continued to constrain harvesting and drying operations. In Vihiga Busia and lower region of Kakamega and Bungoma, the second season beans are at flowering to podding stage.

Conditions are under watch for short rains beans in lowlands of Bungoma County due heavy rainfall being experienced leading to water logged fields.

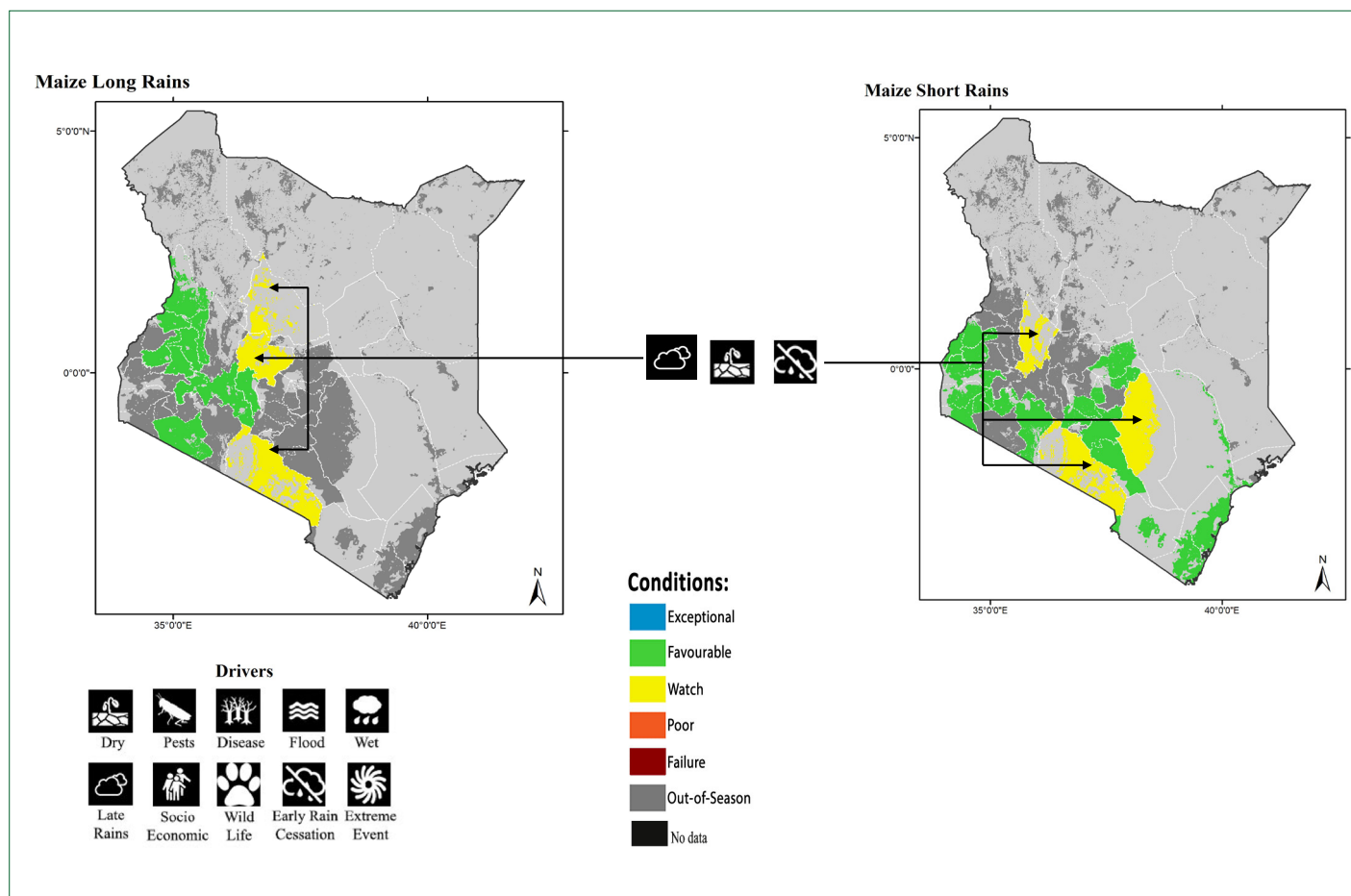
Short rains beans are projected to do better in Kakamega Vihiga and Busia but poorly in Bungoma. Short rains maize is projected to perform well in sub counties that have planted if the rainfall will continue to be favourable. Irish potato production in Mt. Elgon Sub County of Bungoma County is under watch due to extremely wet conditions and outbreak of bacterial wilt.

**Table 8: Western Region Maize Production Forecast LR and SR Targets**

County	Achieved Area(Ha)LR	Forecast Production (90 Kg Bag) LR	LTA Achieved Area(Ha)	LTA Achieved Production	SR Targets ( Ha)	SR Target production (90kg Bag)
Bungoma	90,750	2,706,560	89,723	3,383,202	4,704	40,298
Busia	31,000	467,670	29,441	459,267	15,086	80,737
Kakamega	78,500	2,132,845	76,042	2,353,049	4,705	17,880
Vihiga	14,730	296,228	18,249	290,420	18,310	85,068
<b>Total</b>	<b>461,892</b>	<b>10,547,324</b>	<b>445,116</b>	<b>12,273,494</b>	<b>42,805</b>	<b>223,983</b>

## Assessment by Crop

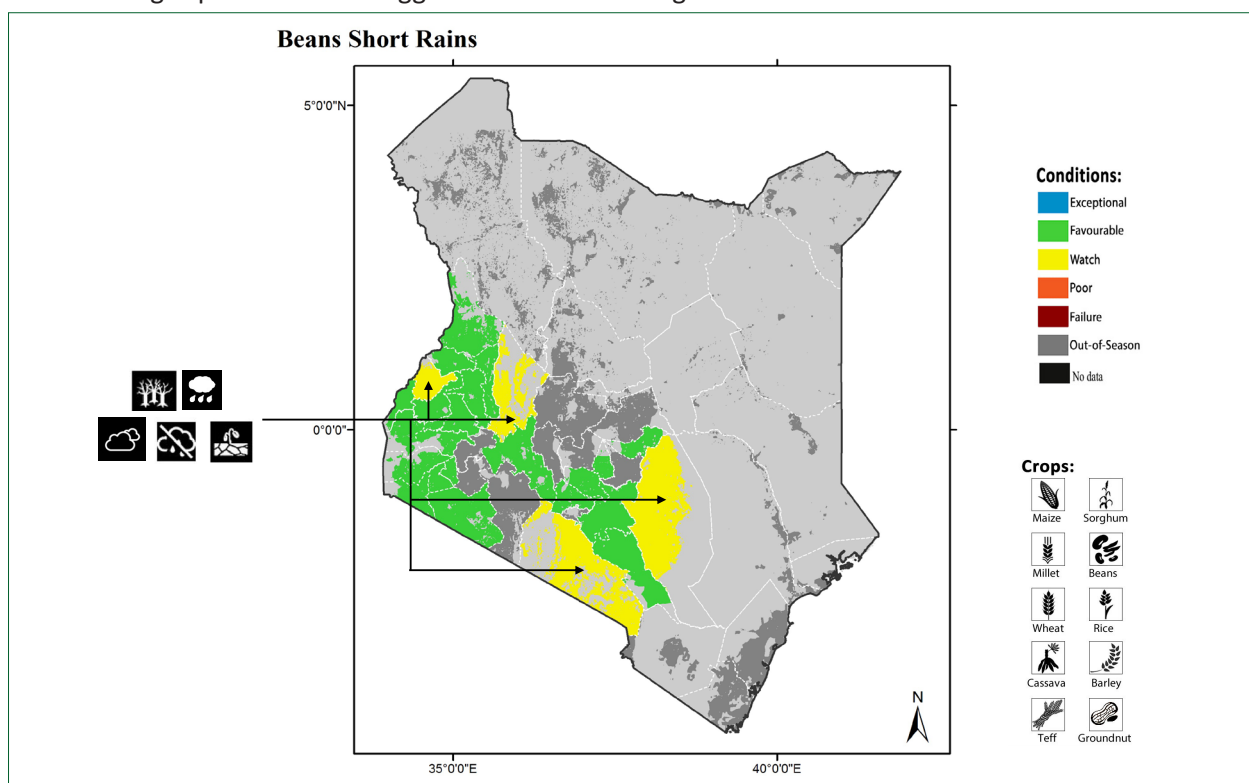
### Maize Conditions Long Rains and Short Rains Summary



Harvesting of maize is ongoing in the North Rift region with the challenge of the existing wet conditions which are likely to increase rotting of grains in Nandi, Trans Nzoia, Bungoma (Kimilili, Mt. Elgon, Tongaren and Webuye East) counties and Likuyani and Lugari Sub Counties of Kakamega county. Crop is in planting to vegetative stage in counties that have started short rain season. Other counties in central region, Eastern and Coast regions, land preparation, planting is ongoing while the counties in Upper Eastern and Central are doing the first weeding especially the upper areas. The germination of the crop may be adversely affected by inadequate rains experienced in October. The short rains crop in Nyanza and Western is in favourable condition except Bungoma lowlands where high incidents of leaching has been observed.

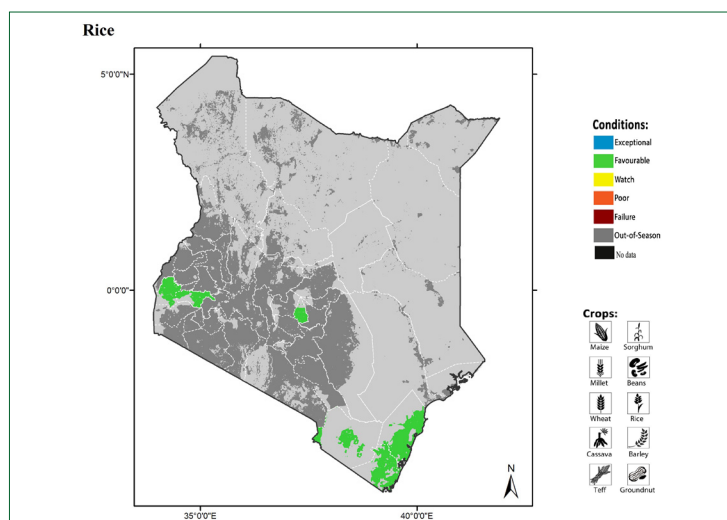
## Bean Conditions Long Rains

The short rains beans crop is in favorable condition in Uasin Gishu and West Pokot while planting is ongoing in Nandi, Trans Nzoia & Elgeyo Marakwet. Planting has been delayed in Baringo due to late onset of the OND rains. Beans were in favourable condition in Kericho, Bomet, Nakuru and Narok due to good rainfall during the month. However, in Kajiado beans were under watch due to delayed rain, less than 10% have done dry planting. Beans are in favorable condition in Nyandarua and at physiological maturity stage. However, in other counties the land is under preparation. In Muranga the erratic and poorly distributed rainfall may affect germination. Crop is favorable in Tharaka Nithi and the trend is stable in Embu. Production is favourable in Homabay, Siaya, Kisumu and Migori; normal in Kisii and Nyamira due to good rainfall received in the area. Conditions are favourable for short rains beans in Western region except Bungoma where heavy rainfall being experienced has triggered outbreak of fungal diseases in lowlands.



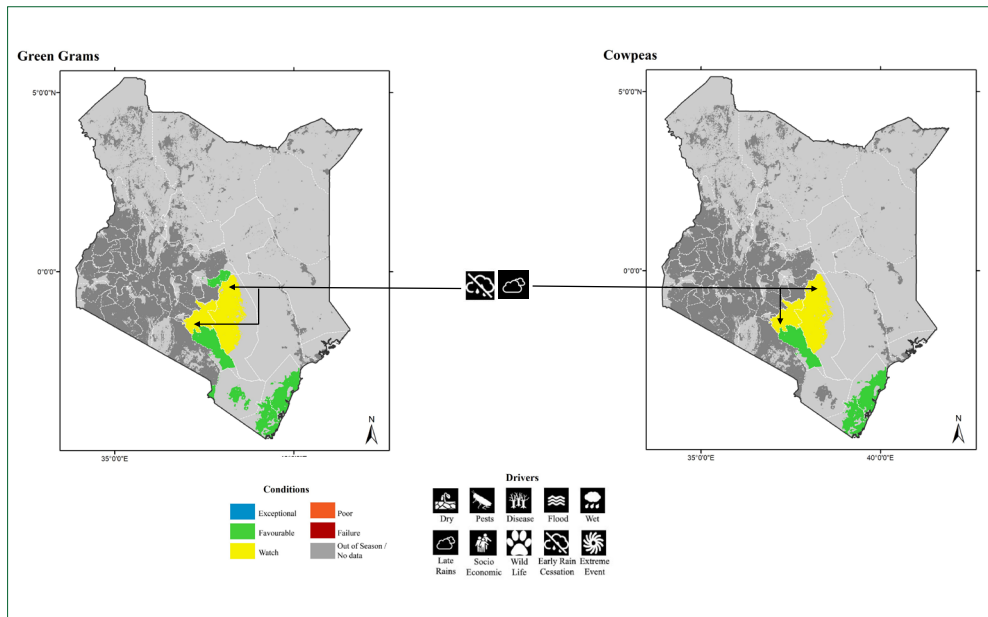
## Rice Conditions Long Rains

In Kirinyaga, crop condition is good and most of the crop is at reproductive to maturity stages. Normal production expected. Rice in Taita Taveta is doing well and is in good condition and 95% of the targeted yield will be realized. In Busia, Siaya and Kisumu conditions are favourable for rice which is at all stages transplanting to early vegetative stage and harvesting for the earlier planted crop and yields are expected to be normal.



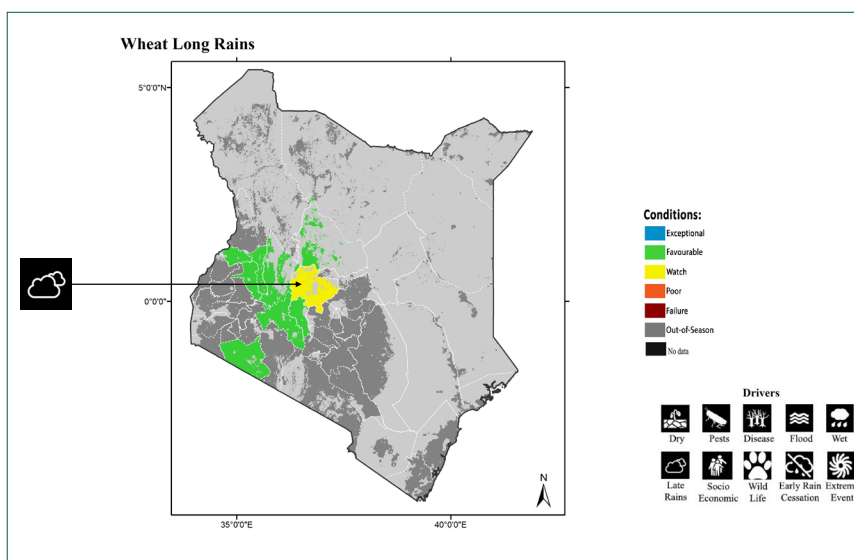
## Cowpeas and Greengrams Conditions Long rains

The main growing areas of these crops for grain in Upper and Lower Eastern and to a lesser extent Coast. Other parts of the country have cowpeas grown for leaves. Green grams are favorable in Tharaka Nithi county. Dry planted crop has germinated and withstanding the current dry spell well. The farmers who planted at the onset of the rains (in the majority) will have to replant if no rains are received in the fourth week. The rest of the region in Lower Eastern and Coast has planted but the crop has not germinated yet.

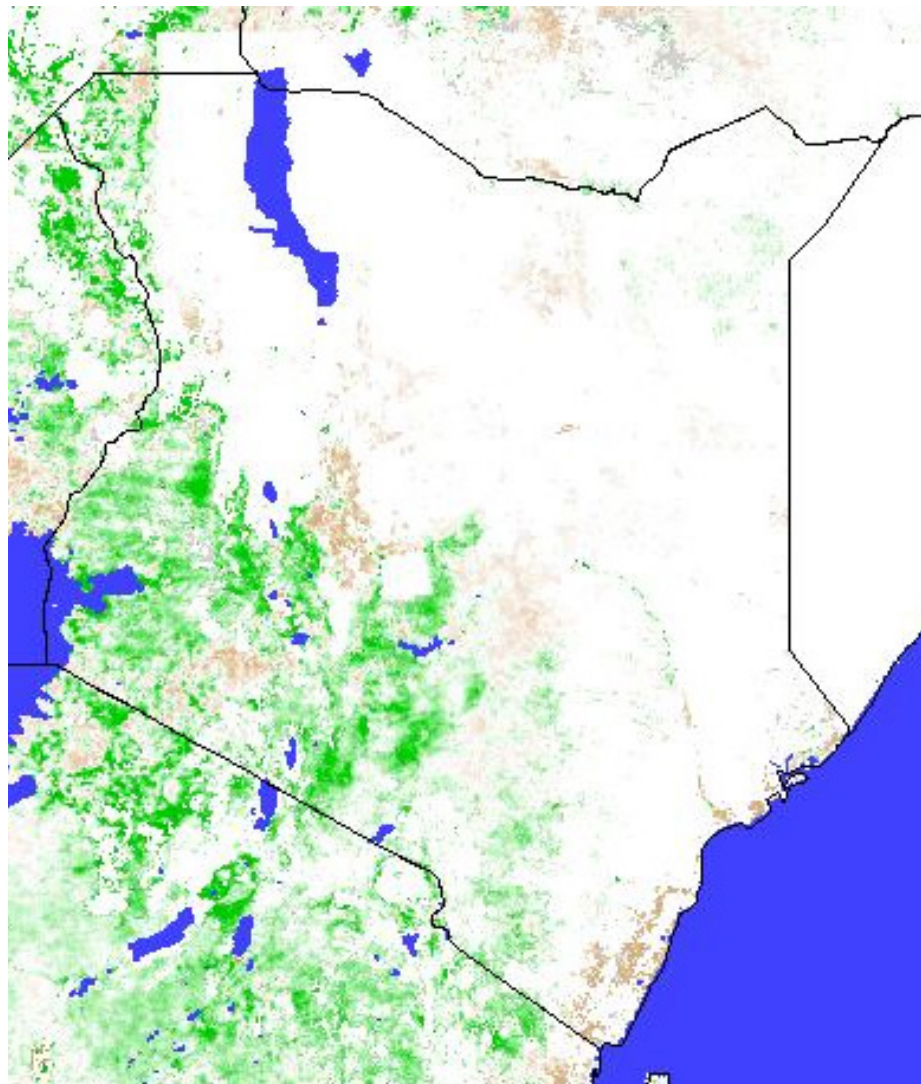


## Wheat Conditions Long Rains

Wheat is mainly grown in Narok, Meru, Uasin Gishu, Trans Nzoia, Laikipia, Elgeyo Marakwet, Nyandarua and Samburu counties. Narok and Meru wheat LR crop is already harvested. Wheat in Uasin Gishu, Trans Nzoia, Baringo, Samburu, Nyandarua and Elgeyo Marakwet is favourable at maturity to harvesting stage. Planting of the short rains has been done in Nyamira and Nyeri counties.



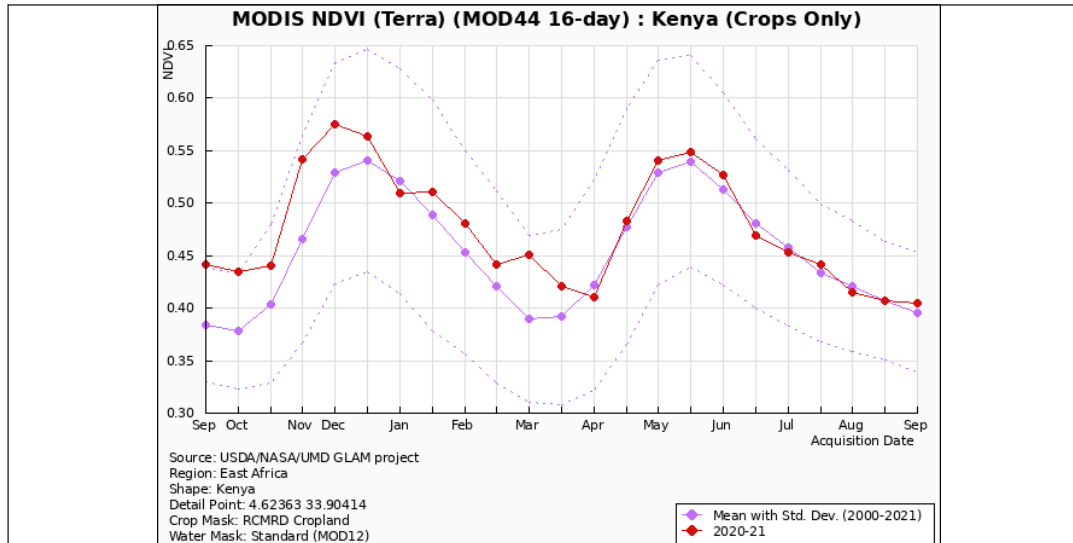
## Vegetation Conditions



### Key



The Vegetation map represents a 16-day anomaly image for 2021-August-29 to September-13. The **brown** areas represent areas where the vegetation conditions are worse than “normal” (long term average for the 2000 to 2018). The **green** color represents areas where conditions are better than “normal”. The white color represent values where normal conditions are being experienced. Gray areas are those where no data was collected due to cloud cover.



The Graph provides a comparison between current vegetation conditions (red) when compared to the average conditions (Purple) defined by the historical average. The dotted line displays the standard deviation showing how values tend to spread-out from the mean and can be used to gauge the severity of the current conditions.

## Climate Outlook

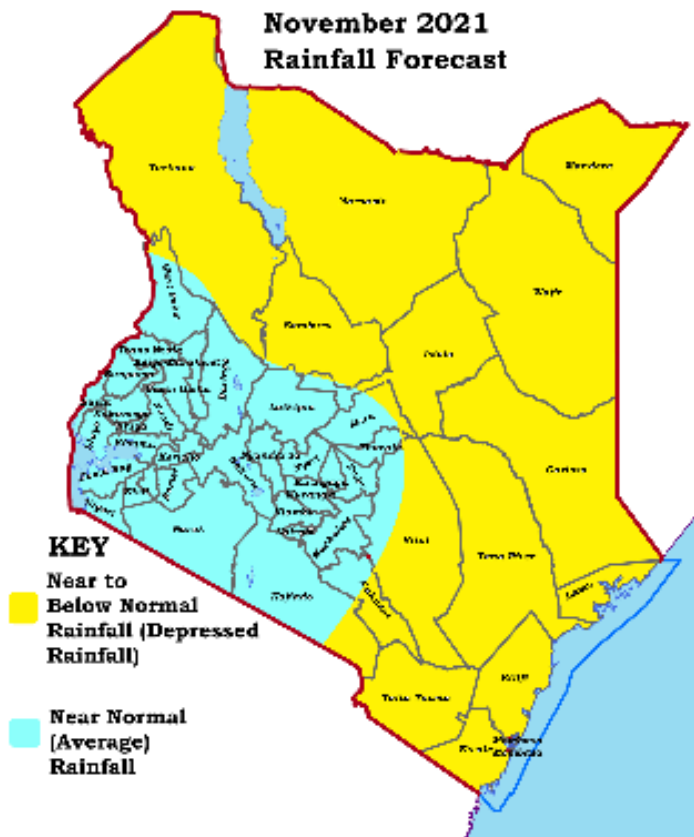


Figure 1: November Rainfall Forecast

## Outlook for November 2021

The forecast indicates that the Lake Victoria Basin, Highlands West of the Rift Valley and Central and South Rift Valley, and the Highlands East of the Rift Valley are likely to experience near-average rainfall for the month. The South-Eastern Lowlands, Northwestern, Northeastern and the Coastal Strip are likely to experience near to below average rainfall as shown in Figure 1. Episodes of heavy rains are likely to continue being experienced in several parts of the country during the period.

## October 2021 Weather Review

Most parts of the country experienced dry weather conditions during the month of October 2021 except the Highlands West of the Rift Valley, the Lake Victoria Basin, the Central Rift Valley and few areas over the Highlands East of the Rift Valley where occasional rainfall was experienced.






The start of the seasonal rains (onset) has not yet been realized over several places except the Western sector and few areas over the Highlands East of the Rift Valley.

Isolated storms were recorded over the Highlands West of the Rift Valley, the Lake Victoria Basin, the Central Rift Valley and the Highlands East of the Rift Valley as had been forecasted. Most meteorological stations in the country recorded monthly rainfall totals of less than 75 percent of their October monthly LTMs.

Nyahururu and Laikipia Air Base were the only meteorological stations that recorded more than 125 percent of their October LTM.











## Terms and Definitions

### Crop Condition Classes

	Exceptional	Conditions are much better than average at time of reporting. This label is used only during the grain-filling through harvest stages
	Favourable	Conditions range from slightly below to slightly above average at reporting time
	Watch	Conditions are not far from average but there is a potential risk to final yields. There is still time and possibility for the crop to recover to average conditions if the ground situation improves. This label is only used during the planting-early vegetative and the vegetative-reproductive stages
	Poor	Crop conditions are well below average. Crop yields are likely to be 10-25% below average. This is used when crops are stunted and are not likely to recover, and impact on yields is likely
	Failure	Crop conditions are extremely poor. Crop yields are likely to be 25% or more below average

### Driver Definitions

These represent the key climatic drivers that are having an impact on crop condition status. They result in production impacts and can act as either positive or negative drivers of crop conditions.

 Wet	Higher than average wetness that results in destruction ie due to water logging and leaching of nutrients	 Extreme Event	This is a catch-all for all other climate risks (i.e. frost, hailstorms, mudslides etc.)
 Late Rains	Late start of the season	 Flood	Area is flooded
 Early Rain Cessation	Rains end earlier than expected in the season	 Pests	Destructive insects, birds or animals
 Disease	Destructive plant diseases	 Dry	Drier than average
 Socio Economic	Social or economic factors that impact crop conditions (i.e. policy changes, agricultural subsidies, government intervention, etc.)	 Wild Life	Crop destruction by wildlife

**Conflict:** Armed conflict or civil unrest that is preventing the planting or harvesting of the fields by the farmers

### Acronyms

The normalized difference vegetation index (NDVI) is a measurement of plant health based on how a plant reflects light (usually sunlight) at specific frequencies.

RCMRD	Regional Centre for Mapping of Resources for Development	SDCD	State Department for Crops Development
SERVIR	Joint development initiative of NASA and USAID	MoALF	Ministry of Agriculture, Livestock and Fisheries
UCSB	University of California Santa Barbara	MLND	Maize Lethal Necrosis Disease
UMD	University of Maryland	GHACOF	Greater Horn of Africa Climate Outlook Forum
USAID	United States Agency for International Development	ICPAC IGAD	Climate Prediction and Application Centre
FAW	Fall Army Worm		

## Partnerships